

Inventor: Liotta *et al.*
Title: Sphingolipid Derivatives and Their Methods
of Use
Serial No. Unassigned
Attorney: Sherry M. Knowles, Esq.
Attorney Docket No. 18085.105233CON1 (EMU
2010)
Sheet 1 of 16

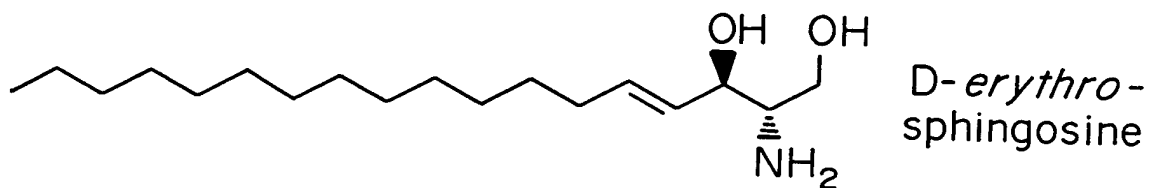
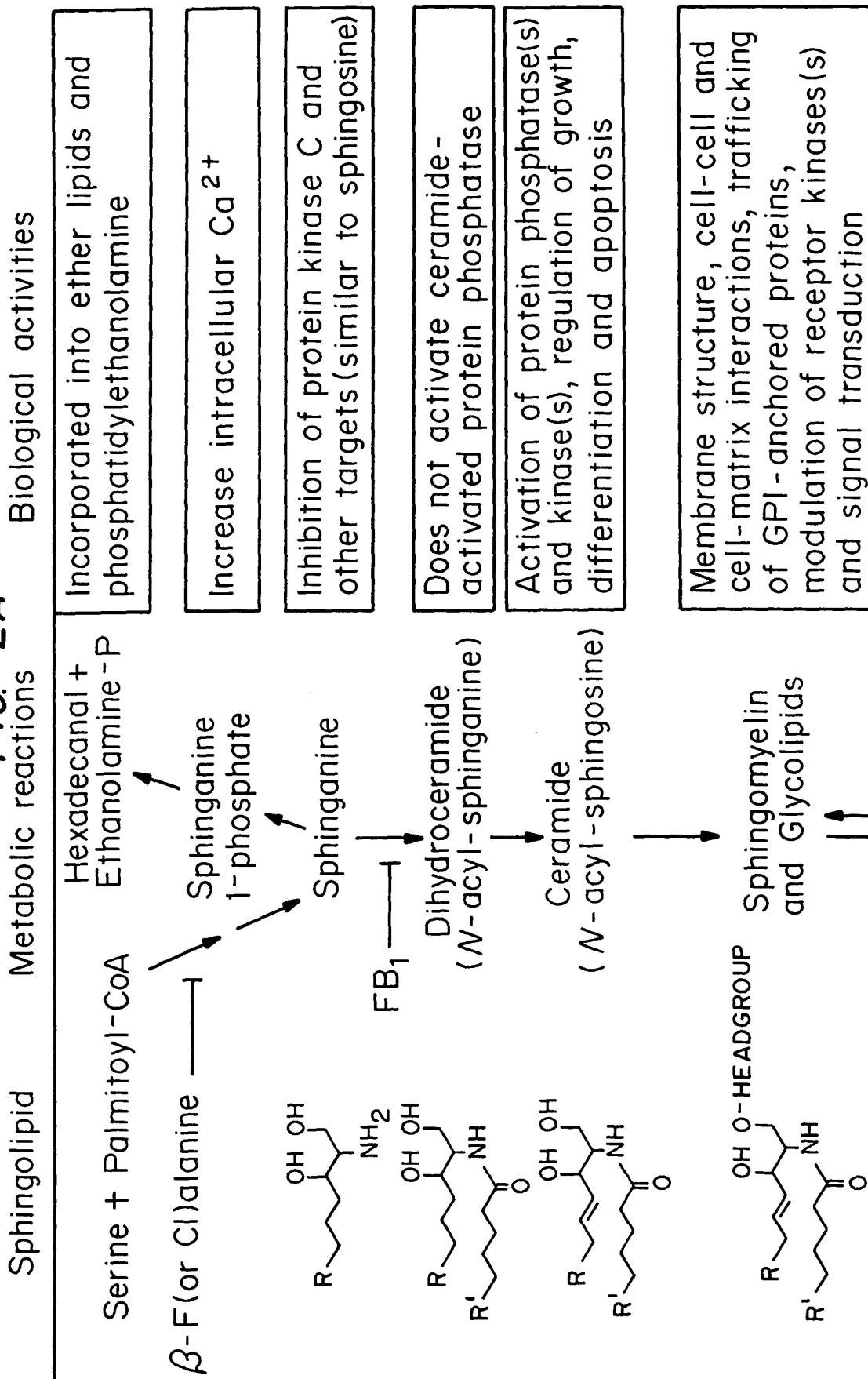


FIG. 1

FIG. 2A



CONTINUED ON FIG. 2B

FIG. 2B

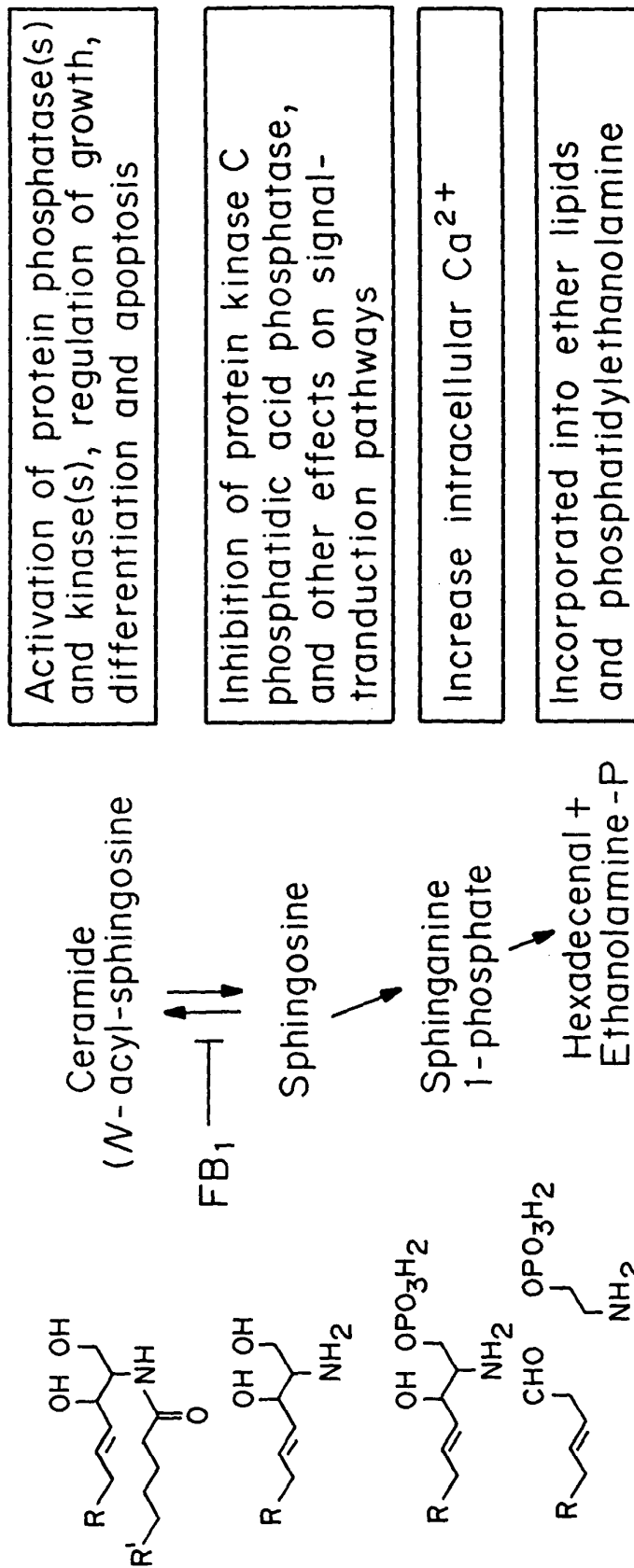
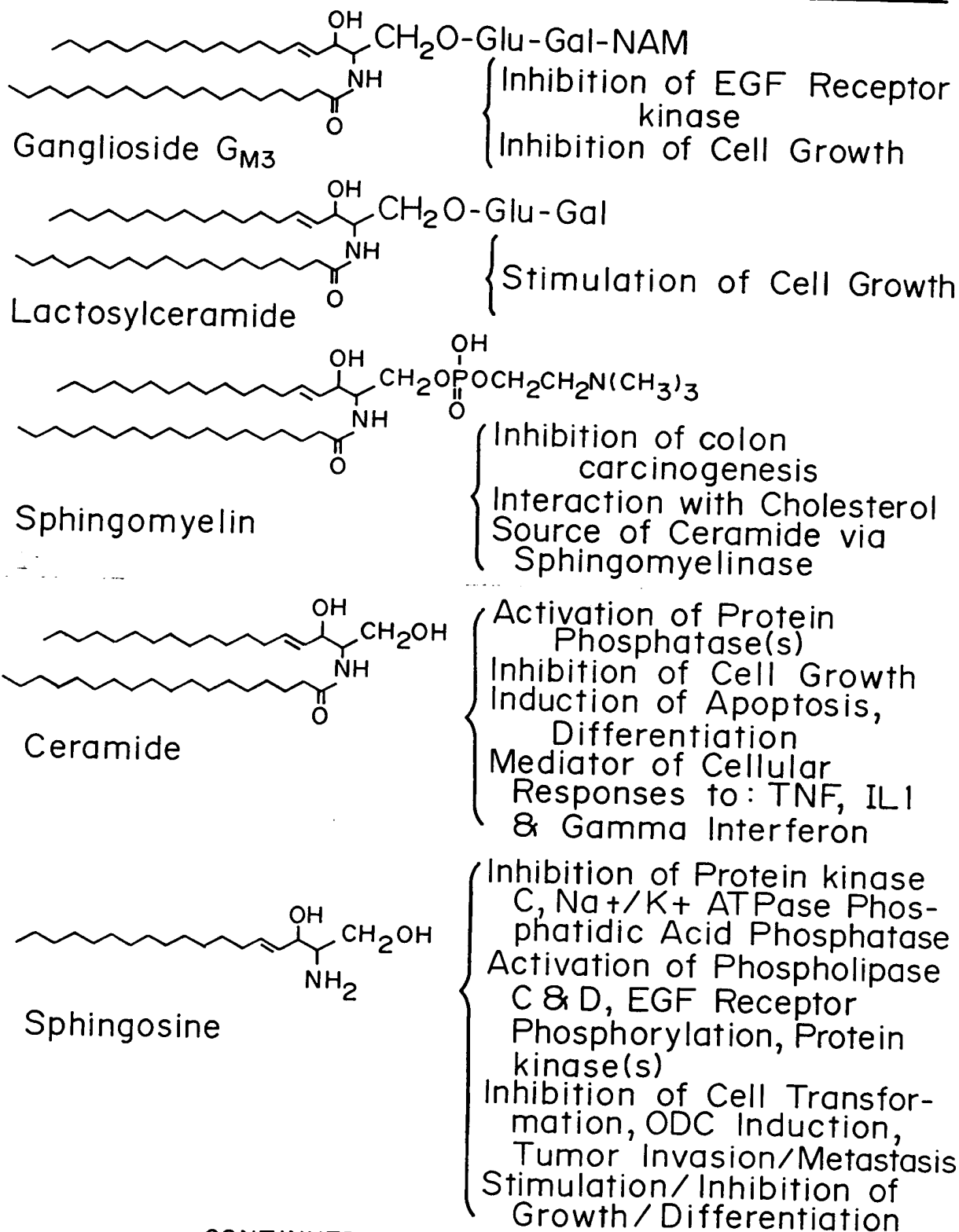


FIG. 3A

Sphingolipid

Examples of Biological Activities



CONTINUED ON FIG. 3B

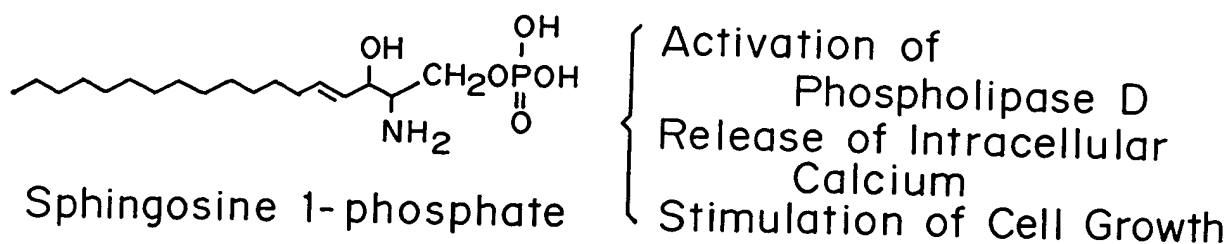
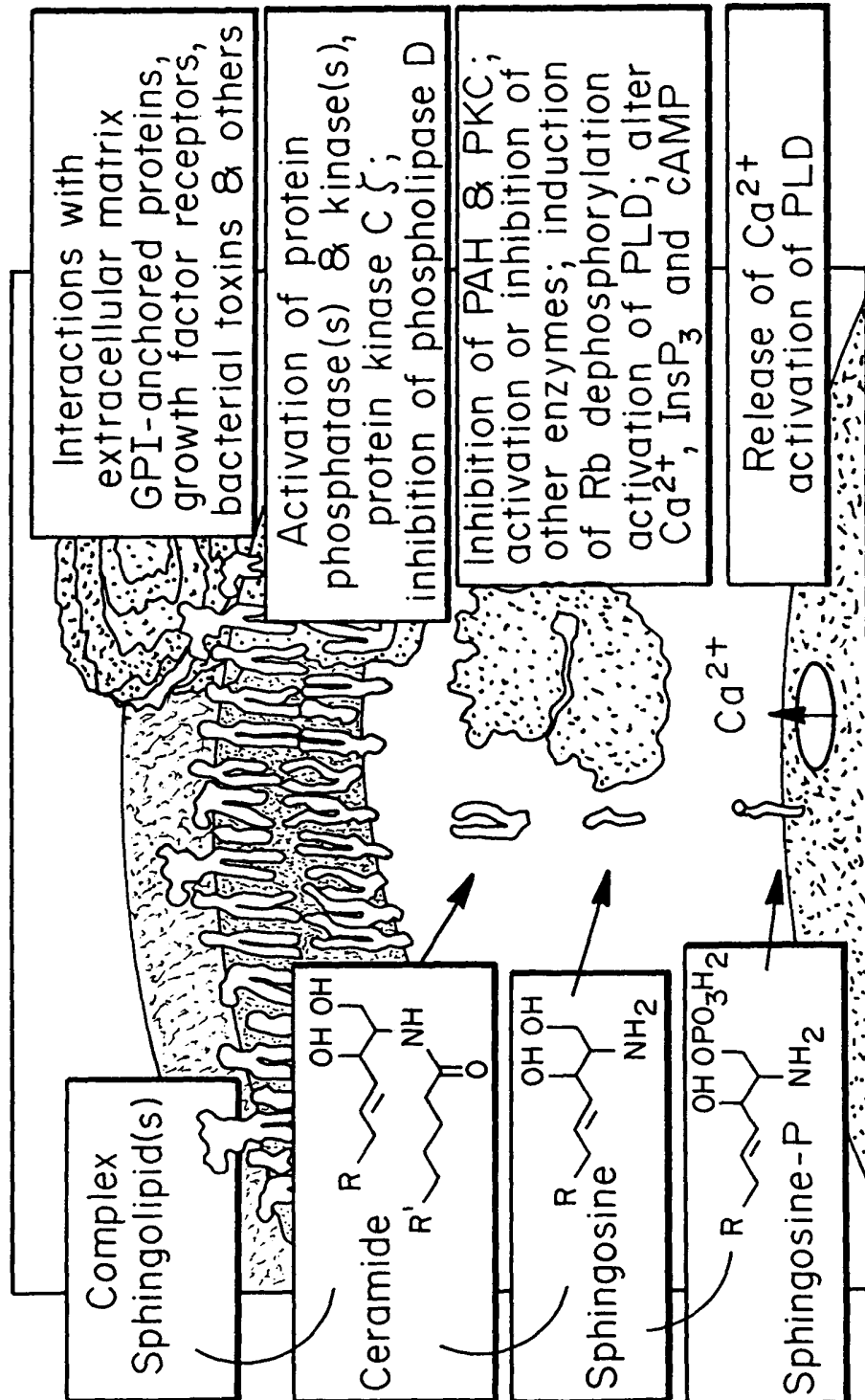
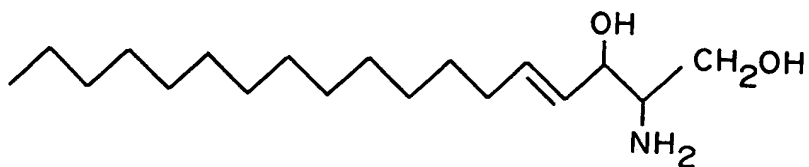


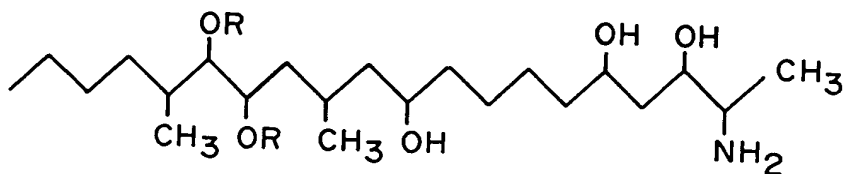
FIG. 3B

FIG. 4

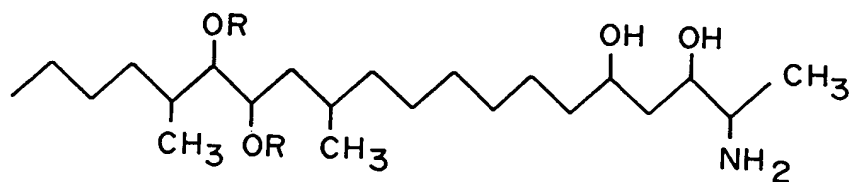




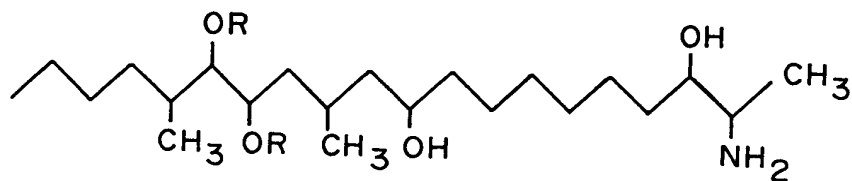
Sphingosine



Fumonisin B₁

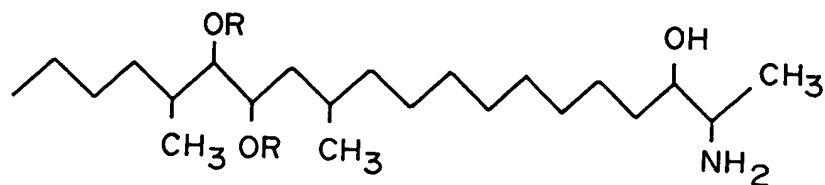


Fumonisin B₂

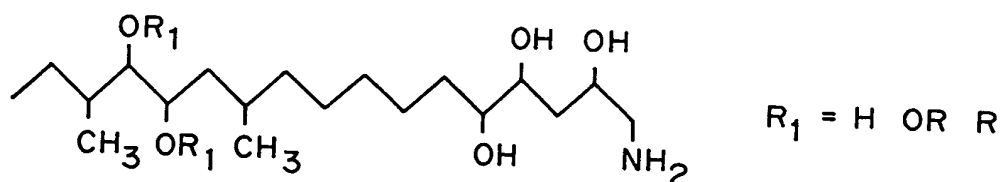


Fumonisin B₃

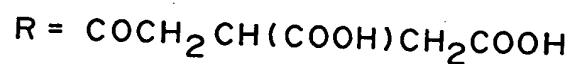
FIG. 5A



Fumonisin B₄



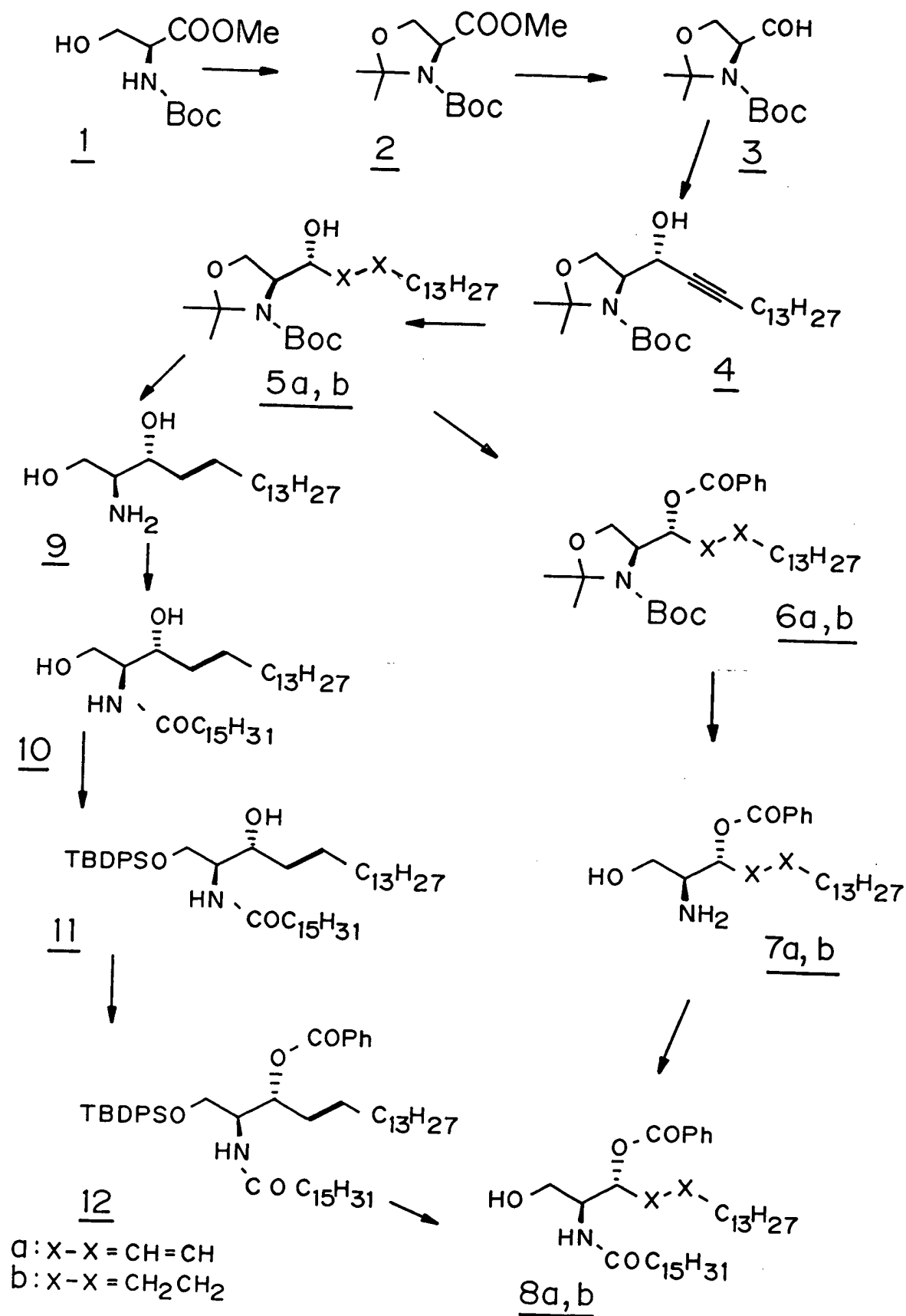
Alternaria toxins (AAL toxins)

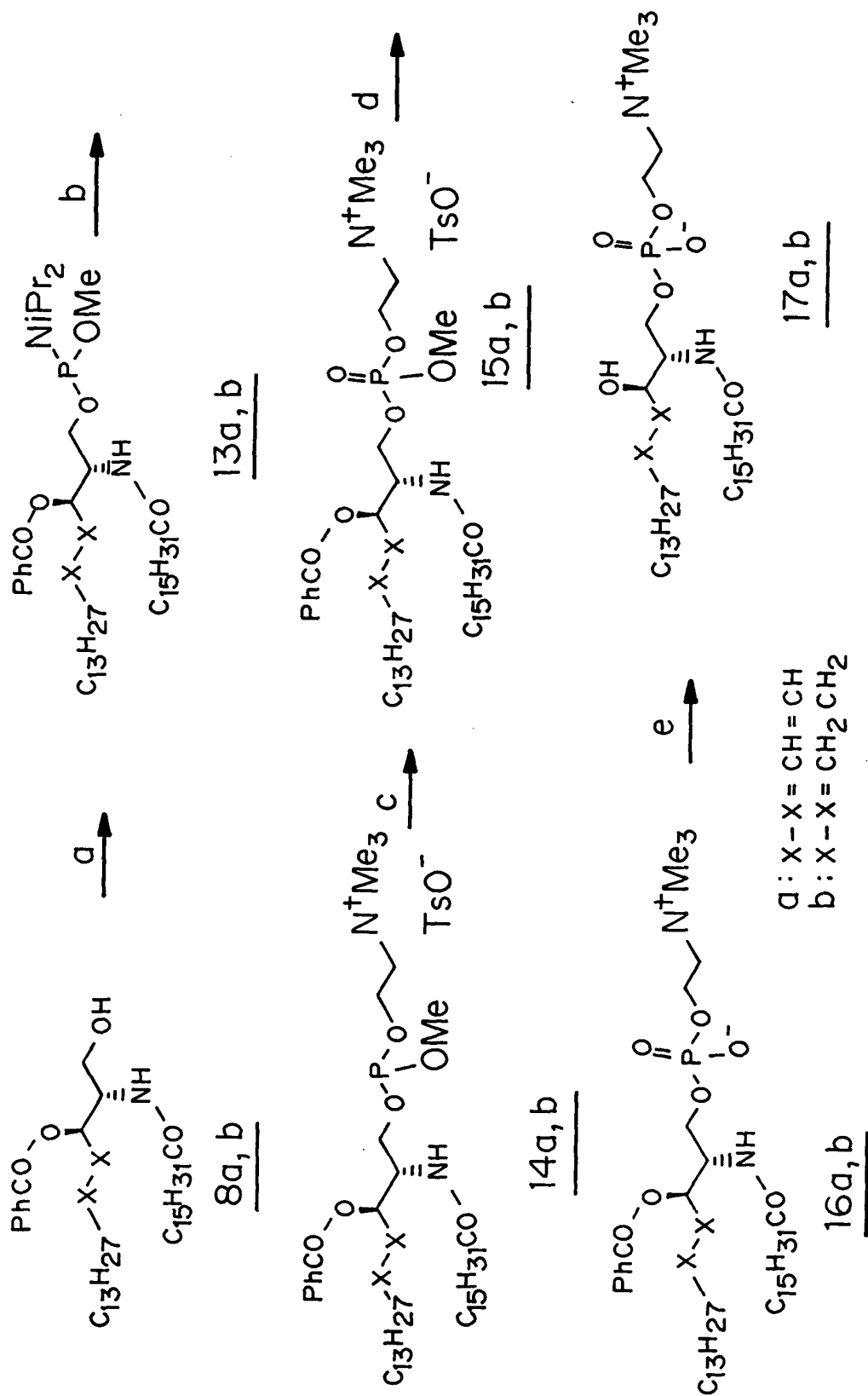


Fumonisin Analogs

FIG. 5B

FIG. 6





Reagents and conditions : (a) $\text{iPr}_2\text{NP(OMe)Cl/Et}_3\text{N/CH}_2\text{Cl}_2$; (b) Choline tosylate/
 Tetrazole/MeCN/THF; (c) t-BuOOH/MeCN ; (d) $\text{t-BuNH}_2/\text{CH}_2\text{Cl}_2$; (e) MeONa/MeOH

FIG. 7

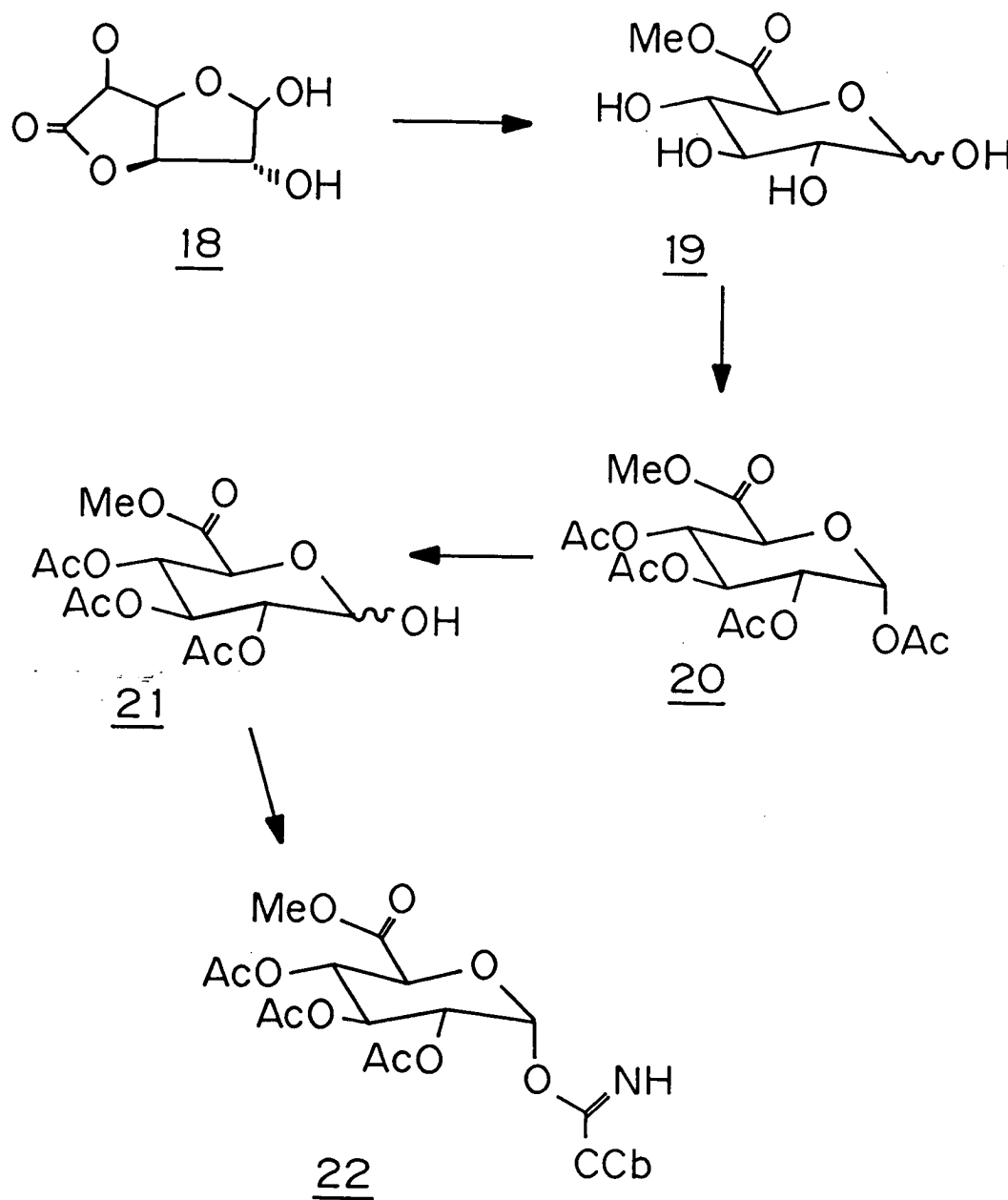


FIG. 8

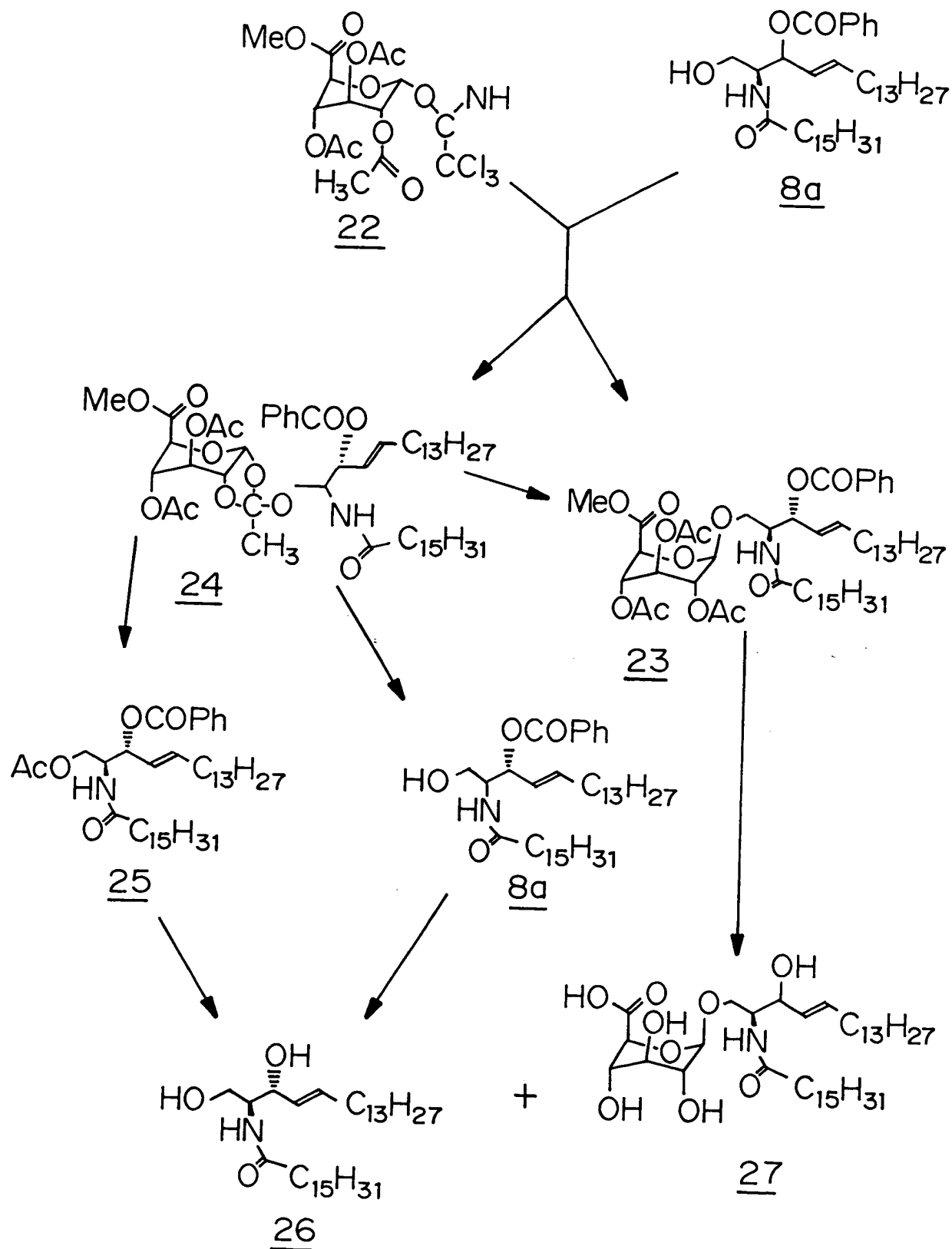


FIG. 9

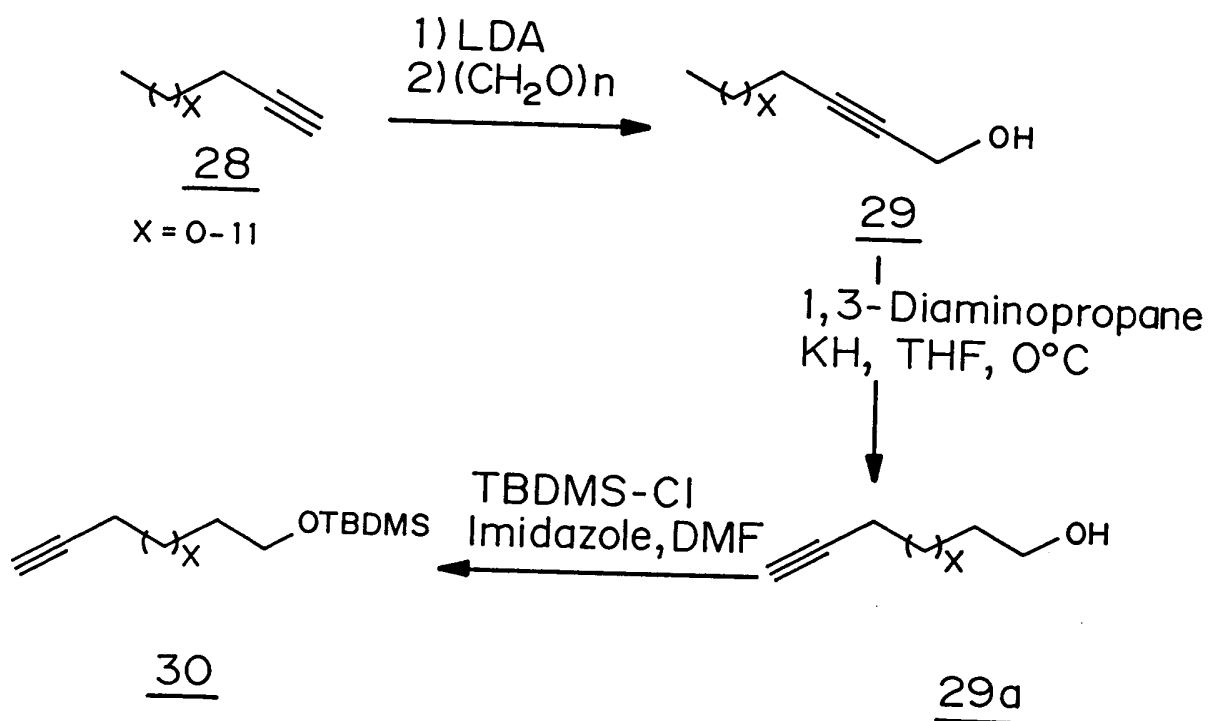
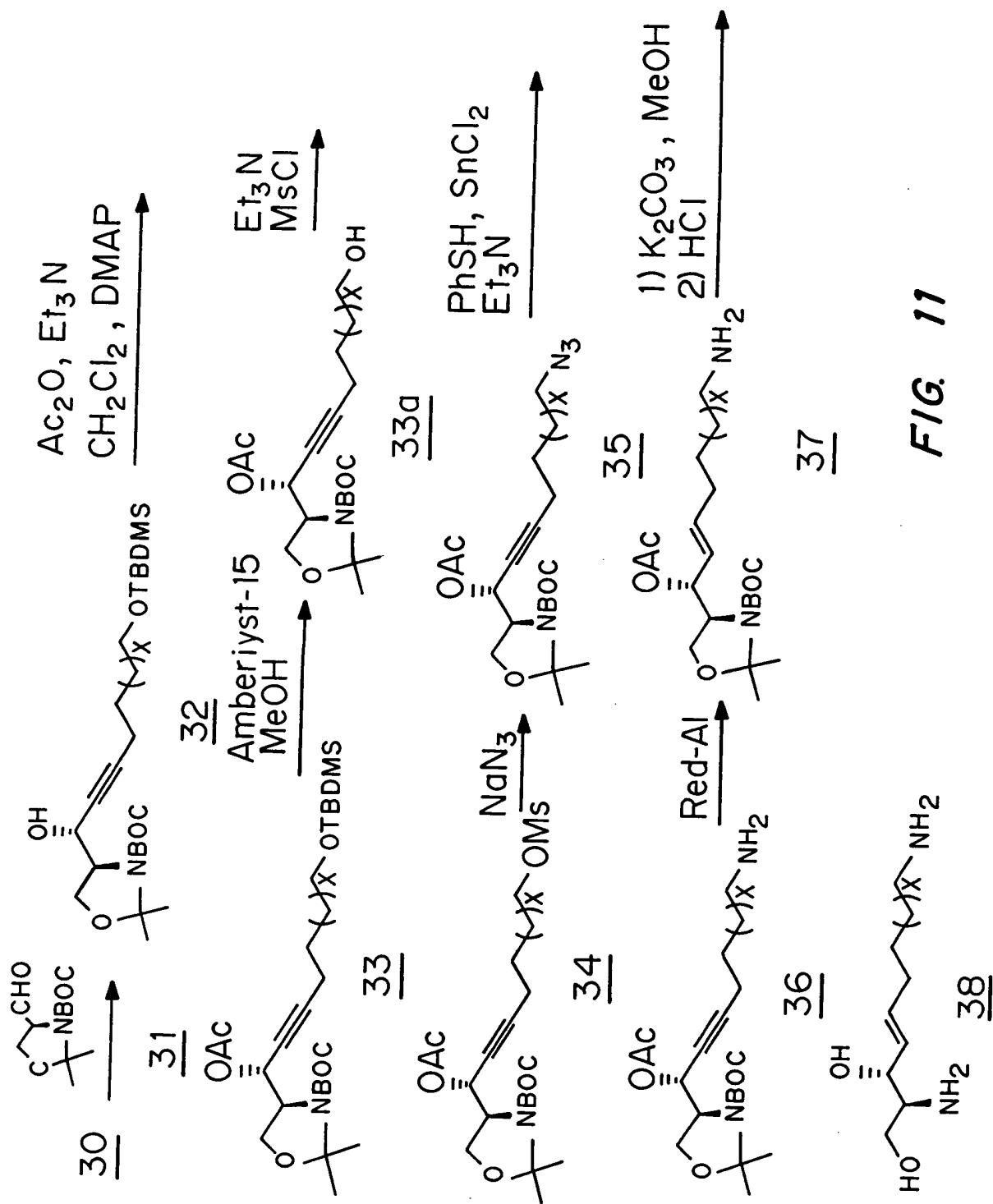


FIG. 10



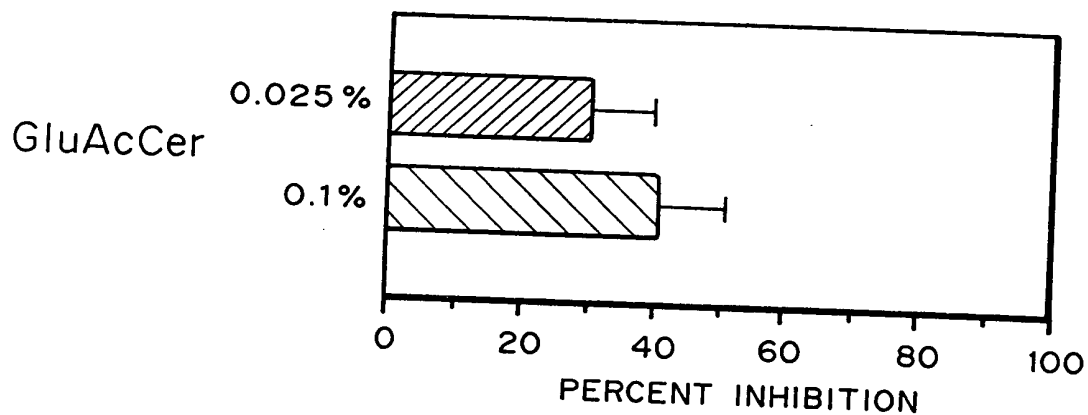


FIG. 12

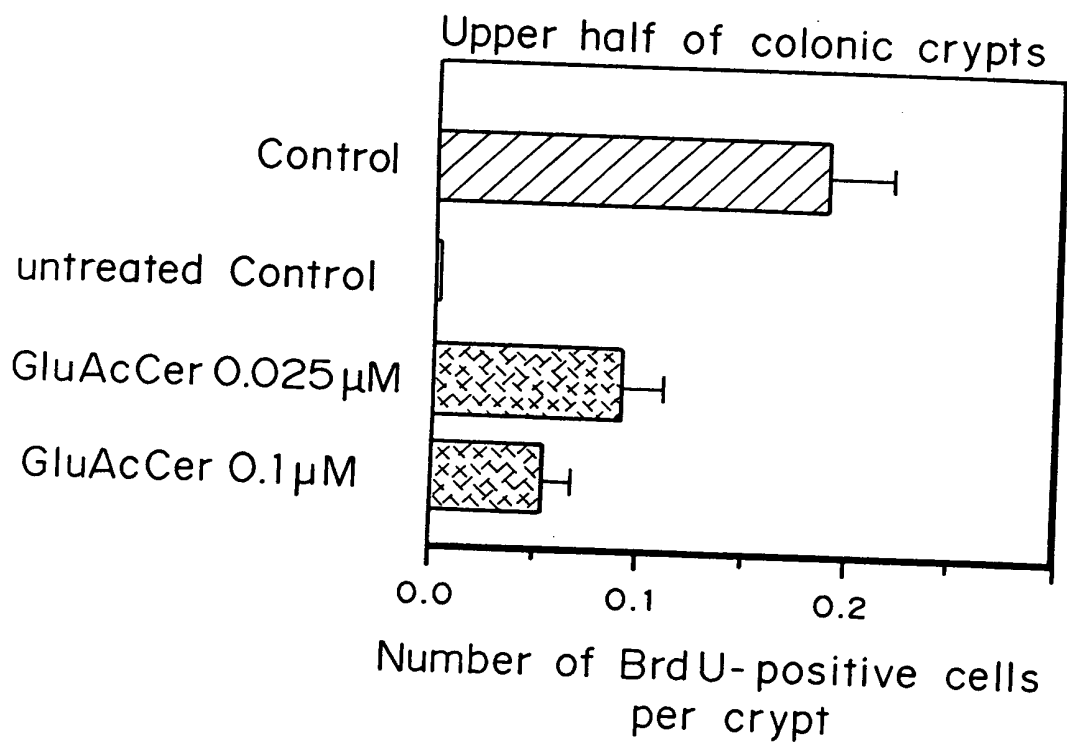


FIG. 13A

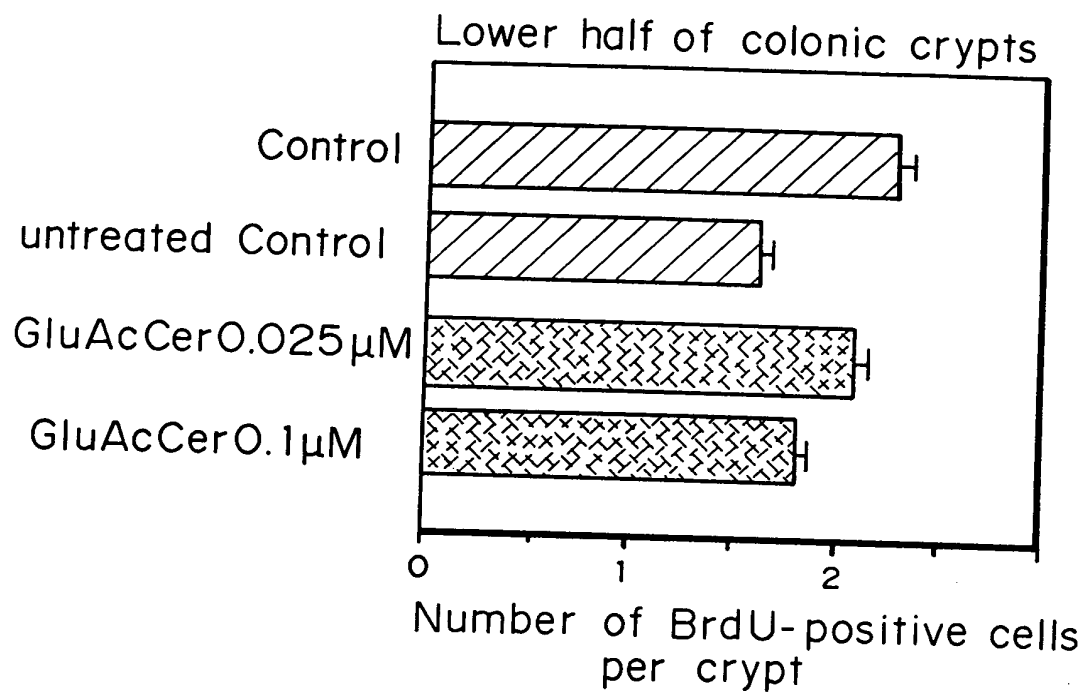


FIG. 13B

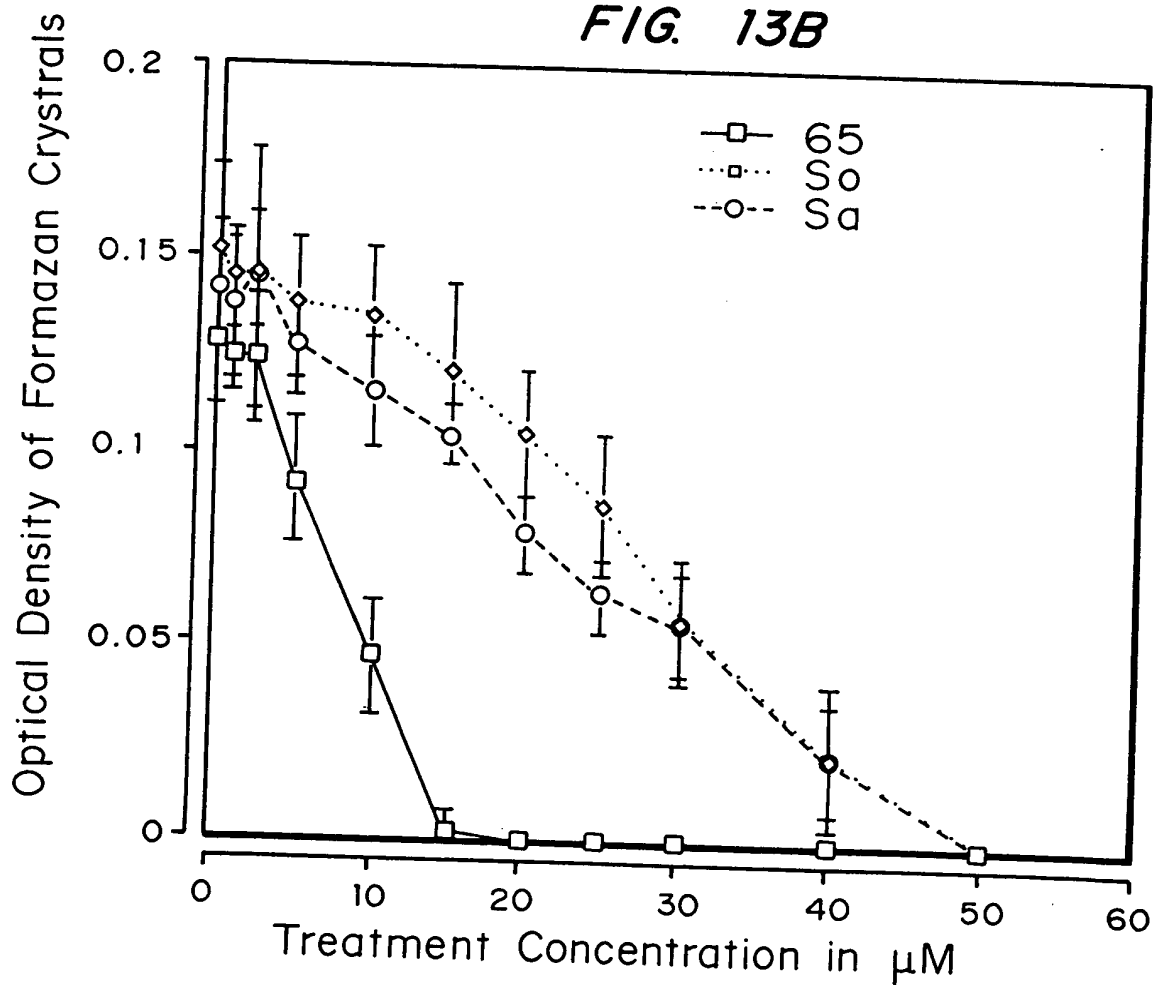


FIG. 14